Amendments to the Specification

Please amend the paragraph beginning at page 1, line 6, as follows:

The present invention relates generally to a computer-implemented vehicle processing facility analysis system, more particularly, to a method of tracking a vehicle during a repair process. ~~networked and distributed computer implemented vehicle repair facility analysis system~~.

Please amend the heading at page 1, line 10 as follows:

2.   Background ~~and Summary of the Invention~~

Please amend the paragraph beginning at page 1 line 11, as follows:

Vehicle repair shops or facilities handle a large volume of vehicles. Vehicles remain many days within the shops since the repair process has many time consuming steps. For example in a typical collision repair process, vehicles undergo a vehicle disassembly step, frame repair step, metal repair step, preparation step, painting step, reassembly step, and testing step. Delays invariably arise from a number of sources. Exemplary delay sources include the incorrect parts being delivered or [[an]] insurance companies slowly ~~company not quickly~~ processing [[a]] vehicle collision [[claim]] claims.

Please amend the paragraph beginning at page 1 line 18, as follows:

Due to the large volume of vehicles that repair shops handle, ~~repair shop~~ managers find it difficult to correctly diagnose what delays occur enough times to warrant correction. The delays that occur most frequently might be able to be diagnosed. However, delays that occur less frequently escape detection and correction.

Please amend the paragraph beginning at page 2, line 1, as follows:

Not only is the diagnosis of vehicle delays problematic, but it is difficult for an owner of a repair shop [[owner]] to obtain, in a relatively straightforward way, a

comprehensive view of how the ~~owner's~~ shop is performing in terms of facility potential, profit potential and other factors relative to other shops, let alone know how it is performing relative to the top vehicle repair shops. Business analysis software packages exist, but are typically not directed to <u>the combination of</u> [[as]] many specifics (e.g., cycle time analysis, facility shift, and other factors) of a vehicle repair shop, and therefore are less complete. A non-limiting specific example includes the amount of paint used by technicians in the repair process. Typical business analysis software packages are not directed to analyzing the usage of paint and how such usage compares with other shops.

In-between lines 10 and 11 on page 2, please insert the following heading:

-- <u>Summary of the Invention</u> --

Please amend the paragraph beginning at page 2, line 11, as follows:

The present invention overcomes the aforementioned disadvantages as well as other disadvantages. In accordance with the teachings of the present invention, <u>a method of tracking a vehicle having a vehicle identifier during a repair process using a computerized analysis module is provided. The method comprises the steps of: storing the vehicle identifier in the analysis module such that the module can track the vehicle; determining the repair steps necessary to complete a repair of the identified vehicle; allocating a target time period for each day of the repair process to define a preselected daily time target; identifying a delay during a particular repair step of the repair process if the time allocated to the identified vehicle on a particular day is less than the preselected daily time target for that particular day; determining a length of time of the delay and storing the length of time of the delay in the analysis module; determining a reason for the delay and storing the reason for the delay in the analysis module; and reporting a proficiency of the repair process by combining the length of time of the delay with the reason for the delay such that a repair facility can assess areas of improvement.</u> ~~a computer-implemented method and apparatus is provided for tracking a vehicle during a vehicle-related multi-step process. A vehicle identifier is received for uniquely identifying a~~

vehicle. A delay reason is received for why the vehicle was delayed during at least one of the multi-step processes. An association is stored among the delay reason, the step at which the vehicle delay occurred, and the vehicle identifier. The stored association is used to identify at least one delay reason for the vehicle.

Please delete the paragraph beginning at page 2, line 19.

Please amend the paragraph beginning at page 3, line 18, as follows:

The present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

Figure 1 is a system block diagram depicting the computer-implemented vehicle facility repair analysis system;

Figure 2 is a software module data flow diagram depicting the data flow among software modules of the present invention utilized to generate business analysis data;

Figure 3 is a structure chart depicting [[the]] a web site structure architecture of the present invention;

Figure 4 is a computer screen display depicting a succinct recap of business performance, priorities, projections, and production workforce shift report profile that was generated in accordance with the teachings of the present invention;

Figure 5 is a computer screen display depicting a vehicle tracking and cycle time assessment data processing screen;

Figure 6 is a computer screen display depicting the display of data associated with sales and marketing data;

Figure 7 is a computer screen display depicting the entry and display of detailed data associated with sales and marketing data of Figure 6;

Figure 8 is a computer screen display displaying the result of entering data via the computer screen display of Figure 7;

Figure 9 is a computer screen display depicting the display of data that was provided via the computer screen of Figure 7;

Figures 10a and 10b are a computer screen display depicting the entry and display of company financial data, owner's priority data, personnel & facility data, and technician workshift data; and

Figure 11 depicts a computer screen showing how an user's shop compares to other shops in selected measures.

Please amend the paragraph beginning at page 5, line 5, as follows:

Figure 1 depicts a collision repair shop or facility 30 being connected to a business analysis and transaction computer server 34 via a network such as the Internet 38. The collision Collision repair facility 30 uses the computer server 34 to analyze the collision repair facility's performance, priorities, business projections and workforce shifts.

Please amend the paragraph beginning at page 5, line 9, as follows:

At collision repair facility 30, a computer 42 provides an interface 46 for [[an]] a user 50 to facility 30 to communicate with computer server 34. In the preferred embodiment, computer 42 is situated within the repair facility 30 so that the status of a vehicle can be efficiently tracked as it is being repaired in the facility 30. However, it is to be understood that the present invention is not limited to the user 50 being only situated within the collision repair facility 30, but also includes an user physically remote from the facility 30 but has knowledge of the vehicle's status in the facility 30 wherein the process a vehicle is.

Please amend the paragraph beginning at page 5 line 16, as follows:

The user User 50 provides financial and other facility-related data so that business analysis module 60, that resides on computer server 34, can analyze the user-provided data. Business analysis module 60 examines user-provided financial, facility, personnel information, and priority assessment data to provide to the user 50 an assessment of the collision repair facility's strengths, weaknesses, areas of opportunities, and business projections. For example, business analysis module 60 can indicate to the user 50 that

based upon the user-provided input data, the facility 30 has an opportunity for growth relative to industry guidelines. The module ~~Module~~ 60 can also indicate to the user 50 how well the facility 30 is doing relative to the top 25% of all other collision repair ~~facility shops~~ facilities.

Please amend the paragraph beginning at page 6, line 4, as follows:

As another non-limiting example, the business analysis module 60 receives from the computer 42 vehicle repair processing cycle time data. The cycle time data includes not only at what step a vehicle is within the vehicle repair process, but also includes delay reasons and delay time amounts for any delays that have occurred at a step in the repair process. The business ~~Business~~ analysis module 60 uses the data to identify whether the facility 30 has as one of its strengths a relatively fast time to process a vehicle repair.

Please amend the paragraph beginning at page 6, line 10, as follows:

The business ~~Business~~ analysis module 60 also can indicate what equipment the facility 30 can use to actualize opportunities or to overcome weaknesses in one or more areas. A business ~~Business~~ transaction module 64 interacts with business analysis module 60 and the user 50 to automate the process of buying for the user 50 the equipment that would improve the operations of facility 30. For example, if the business analysis module 60 had identified that the facility 30 has a chronic problem of a shortage of movable carts. The business ~~Business~~ transaction module 64 is used to identify for the user 50 sellers of movable carts. In this manner, the purchase of needed items is automated for the user ~~by the present invention~~ 50.

Please amend the paragraph beginning at page 6, line 19, as follows:

In the preferred embodiment of the present invention, a paint supply company provides the present invention to the owner of a collision repair shop. Through use by the owner of the transaction module 64 to purchase items, the present invention can recommend products and services offered by the paint supply company, or products and

services offered by companies that have co-branded with the paint supply company. The paint supply company providing the present invention also increases loyalty of the owner to the paint supply company even if no non-paint items are ordered.

Please amend the paragraph beginning at page 7, line 5, as follows:

Due to the networked environment in the preferred embodiment of the present invention, multiple collision repair facilities 56 can use the computer server 34 to analyze and to transact business. However, it should be understood that the present invention can also be given to the users 50 on a computer storage medium (such as a CD-ROM). The user 50 uses the software to analyze and transact business.

Please amend the paragraph beginning at page 7, line 10, as follows:

Figure 2 depicts data input and processing performed by the business analysis module 60. A [[An]] user provides customer financial data 80, customer, facility and personnel information 84, customer assessment of priorities 88, and production shift information 89 in order for business analysis module 60 to identify best practices 92, analytical worksheets and reports 96, and forms and policies of the business 100. For example, customer financial data 80 can include includes refinish labor sales and other data items depicted in Figures 10a and 10b shown by reference numeral 80. Customer, facility and personnel information 84 can include the includes number of metal stall stalls including frame and other data items depicted in Figures 10a and 10b shown by reference numeral 84. Customer assessment of priorities 88 can include includes prioritizing financial measures and other items depicted in Figures 10a and 10b shown by reference numeral 88. Production shift information 89 can include the includes number of day shift technicians and other data items depicted in Figures 10a and 10b shown by reference numeral 89.

Please amend the paragraph beginning at page 8, line 8, as follows:

In order to most efficiently and effectively acquire and generate the desired information, a website is provided to the user as depicted in Figure 3. At the top of the

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structure, is a ~~2020~~ 20/20 recap web page 120 that provides a succinct presentation of key performance indicators (KPIs), business owner's priorities, financial projections, and the production workforce shift profile associated with the facility. In order to provide the data needed to generate the succinct business presentation, various data input web pages are provided, such as the categories web pages 124 and the update my personal reports web page 128. The category web pages 124 allow the user to enter data into the present invention (see, for example, Figures 6-9). The update web pages 128 allow the user to customize reports to better fit the particular needs of the user.

Please amend the paragraph beginning at page 8, line 18, as follows:

"What if? scenarios" web pages 133 allow the user to examine the effect of changing certain parameters, such as financial parameters, upon the user's facility. A data ~~Data~~ entry web page 135 allows the user to provide data specifically for the ~~2020~~ 20/20 recap results summary web page 120. An example of data entry web page 135 is Figures 10a and 10b.

Please amend the paragraph beginning at page 9, line 3, as follows:

Figure 4 depicts a ~~2020~~ 20/20 recap which is a succinct presentation by the present invention of how well the collision repair facility is doing. Within the preferred embodiment of the present invention, the following areas or their equivalent are provided: a performance summary 200, a priority summary 204, a projection summary 208, and a production workforce shift profile summary 212.

Please amend the paragraph beginning at page 9, line 8, as follows:

The performance ~~Performance~~ summary 200 is generated using a performance data structure with the structure depicted within region 216. The business performance data structure includes selected key performance indicators, facility/shop data, industry guidelines, a top 25% indicator, and whether opportunities exist to improve the business. For example, a key performance indicator within data structure 216 includes a production ~~efficiency~~ proficiency amount for the facility, industry guidelines, and top

25% indicator. As another example, total gross profit percent is provided for the shop, industry guides, and top 25%. An opportunity in this example has been identified by the present invention that the user's shop has a total gross profit percent of 38.5% which is below the 40.0% industry guideline and well below the top 25% value of 43.5%. An opportunity indicator 220 is generated by the present invention for the user to explicitly show that the user's shop can grow in this area in order to be more competitive relative to other shops. Specific aspects of the shop, such as paint, can be studied and analyzed by the present invention. For example, monthly paint gallons of waste per paint technician is provided as an indicator for the user to review.

Please amend the paragraph beginning on page 11, line 3, as follows.

With reference back to Figure 4, a business priorities data structure is depicted within region 240 in order to store and to display business priority information relevant to the user's shop. The business priorities data structure 240 includes business areas and indicators as to how strong the shop is within the areas. For example, a priority as selected by the user is the financial performance of the shop. Based upon the user's financial input data in this example, the financial performance of the shop is indicated as being relatively weak by the owner as shown by the strength indicator 244. If the user wanted to see the data and the calculation methods by which key performance indicators 200 were generated, the user clicks upon tab 248 to obtain greater detail about the data used to generate the performance indicators 200. In the preferred embodiment, [[owner]] the business priorities data structure 240 includes financial measures, financial performance, sales and marketing, customer satisfaction index, and insurance relations including cycle time, administration (general), administration (parts), production (general), production (refinish), facility (capacity, equipment, layout), and personnel including pay plans and incentives.

Please amend the paragraph beginning at page 11, line 18, as follows:

A projections Projections summary 208 uses a data structure 250 to handle the projections data associated with the shop. The data structure 250 includes performance

factors, sales, gross profit, the additional amount of gross profit that would be generated given a certain level of improvement. The projections ~~Projections~~ data structure 250 allows the user to pose "what if" scenarios for assessing how much improvement the user shop would experience given different situations.

Please amend the paragraph beginning at page 12, line 3, as follows:

For example, the second performance factor in the projections data structure 250 is directed to posing a "what if" scenario of what would be the increase in profits with a 10% improvement in production proficiency. Based upon the user's supplied input data, the projections module determines that with the a 10% improvement in production proficiency, the gross profit of the shop would be improved by $24,000 with sales of $1,470,000 and a gross profit of $540,000.

Please amend the paragraph beginning at page 12, line 9, as follows:

In the preferred embodiment, the projections data structure 250 includes the following performance factors: current performance (annualized), "with 10% improvement in production efficiency", "performance with one additional technician", "with 10% improvement in parts: labor ratio", "with 2% improvement in labor gross profit", "with 2% improvement in parts gross profit", "with 2% improvement in materials gross profit", and "with cumulative impact of all improvements".

Please amend the paragraph beginning at page 12, line 15, as follows:

The production workforce shift profile summary 212 is generated using a production workforce data structure 260 that includes main shift only data, main shift plus overtime or Saturday data, main shift and second shift data, and main shift[[/]] , second shift and Saturday data. Within the summary 212, the dark portions 264 indicate that the shop has a main shift, plus an overtime shift, while the lighter portions 268 indicate that there is not a second shift nor a Saturday operations shift. The present invention utilizes, within the data structure 260, a breakout of the main shift from the other shifts, such as the second shift. In this manner, the present invention is better able

to assess facility utilization and potential for greater facility utilization. By the present invention's identifying main shift employees separately from second shift employees, the shop owner can not only obtain a better perspective of the utilization of the facility, but also have a more practical evaluation of actual stalls per technician for the primary shift.

Please amend the paragraph beginning at page 13, line 6, as follows:

If the user wanted to see how the data was generated or to input new data into the business analysis module 60, the user identifies within the priority summary section 204 which priority detail needs examination. As an example, if the user wanted to enter in data for the first time relative to "insurance relations including cycle time", which is the fifth priority within the summary section 204, the user clicks upon tab button 272. Upon clicking tab button 272, the user is directed to the insurance and cycle time area which would include the computer screen of Figure 5.

Please amend the paragraph beginning at page 13, line 13, as follows:

Figure 5 depicts a data entry and data display computer screen related to vehicle tracking and cycle time measurements and assessments. The present invention uses a data structure 304 with the attributes listed in row 300 or equivalents thereof.

Please amend the paragraph beginning at page 13, line 16, as follows:

The cycle Cycle time data structure 304 includes a vehicle identifier to uniquely identify a vehicle that is undergoing a repair process. For example, the vehicle can be identified by [[an]] a unique repair number supplied by the shop, a customer name, vehicle brand, vehicle year, and beginning date of the repair.

Please amend the paragraph beginning at page 13, line 20, as follows:

The data Data structure 304 also includes the steps which the vehicle is to undergo for repair. If the repair is due to a vehicle accident which would include a vehicle frame reconstruction and repainting, then typical repair steps include the vehicle disassembly step, frame repair step, metal repair step, preparation step, painting step,

reassembly step, and testing step. The data ~~Data~~ structure 304 not only tracks what step a vehicle is presently at but also includes whether a vehicle remains at a step for time greater than a predetermined amount. In the preferred embodiment, codes as shown in region 308 are placed at a step where a delay has occurred. For example, a [["PI"]] "P1" code is used to indicate that the reason for delay was that there was a delay in delivery of the parts. A number preceding the code indicates the amount of time associated with the delay. In the preferred embodiment, the number indicates the additional days of delay, such as, for example, "2P2" indicates that there was a two day delay at a particular step due to incorrect parts being delivered. Accordingly, if for a vehicle at the frame repair step the code "2P2" appears, this indicates that there was a delay for two days for a vehicle where the frame could not be operated upon due to incorrect parts being delivered.

Please amend the paragraph beginning at page 15, line 4, as follows:

The data [[Data]] structure 304 includes the date upon which the vehicle's repair was completed as well as the final total amount expended to perform the repair. Thus, the data structure 304 not only tracks the vehicle through a multi-step process, but also performs cycle time measurement by noting the amount of time of delay. The present invention performs cycle time analysis by providing the reason for the delay.

Please amend the paragraph beginning at page 15, line 9, as follows:

In the preferred embodiment, when a car enters each step, a symbol such as a " [[--]] --" is entered in the data structure 304. Each day, all vehicles in the vehicle repair facility are reviewed. If a vehicle has been worked upon for at least five hours, then nothing additionally is noted for the vehicle in data structure 304. However, if less than five hours has been expended for working upon a car, then the reason for the delay as well as the current delay time amount is entered into the appropriate step in the data structure 304.

Please amend the paragraph beginning at page 15, line 16, as follows:

The data [[Data]] structure 304 also includes target analysis where desired target time repair values are compared against the actual time expended to repair a vehicle. In the preferred embodiment, the target analysis includes the number of labor hours sold, the labor hours divided by five hours, actual business days expended to repair the vehicle, and a cycle time efficiency metric. For example, if the number of labor hours sold to complete a vehicle repair process was 30 hours, the labor hours divided by 5 value would be 6. If the actual days expended was 7 instead of the targeted six days, then the cycle time efficiency would indicate that 1 day had been lost.

Please amend the paragraph beginning at page 16, line 3, as follows:

The data [[Data]] structure 304 includes the insurance company being associated with a vehicle repair in order to capture delays associated with an insurance company. For example, if an inordinate number of "I1" insurance approval delay codes have been entered in the data structure 304 for a particular insurance company, then the owner of the vehicle can be told that the reason for the delay was not the repair shop, but rather the insurance company that the vehicle's owner presently uses and that this insurance company is chronically late inspecting damaged vehicles.

Please amend the paragraph beginning at page 16, line 10, as follows:

Figure 6 provides an example of an user entering and viewing the detailed information used to generate sales and marketing summary information. In particular, Figure 6 is associated with the selling and sources of the business. The present invention provides multiple areas in this category for the user to provide information about their business. For example, the present invention asks for information related to a customer's first impression of the user's facility. A user clicks upon a button 350 via a pointing device (such as a computer mouse) to see more detailed questions asked by the present invention as well as have access to an action planner for adding particular checklist items to the user's business plan. Upon clicking the button 350, the user in this example is taken to the computer screen depicted in Figure 7.

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Please amend the Abstract as follows;

A computer-implemented method of ~~and apparatus is provided for~~ tracking a vehicle during a vehicle-related multi-step process. A vehicle identifier is received for uniquely identifying a vehicle. <u>A daily time target for each day of the repair process is preselected. A delay is then identified during a repair step if the time allocated to the vehicle is less than the preselected daily time target. A length of time for the delay is stored.</u> [[A]] <u>Also, a reason for a</u> delay <u>is determined</u> ~~reason is received~~ for why the vehicle was delayed during at least one of the multi-step processes. <u>A proficiency of the repair process can then be reported such that a repair facility can assess areas of improvement.</u> ~~An association is stored among the delay reason, the step at which the vehicle delay occurred, and the vehicle identifier. The stored association is used to identify at least one delay reason for the vehicle. The method and apparatus also analyze business aspects of the vehicle related multi-step process and succinctly summarize the business analysis with respect to performance, priorities, projections, and production workforce shift profiles.~~

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